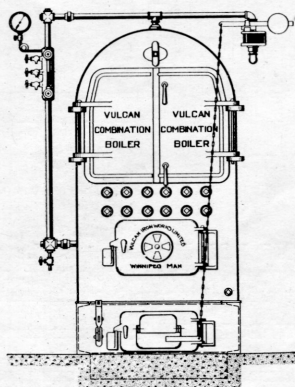


# VULCAN IRON WORKS LIMITED

ESTABLISHED 1874

## VULCAN



## COMBINATION HEATING BOILERS

PATENT APPLIED FOR

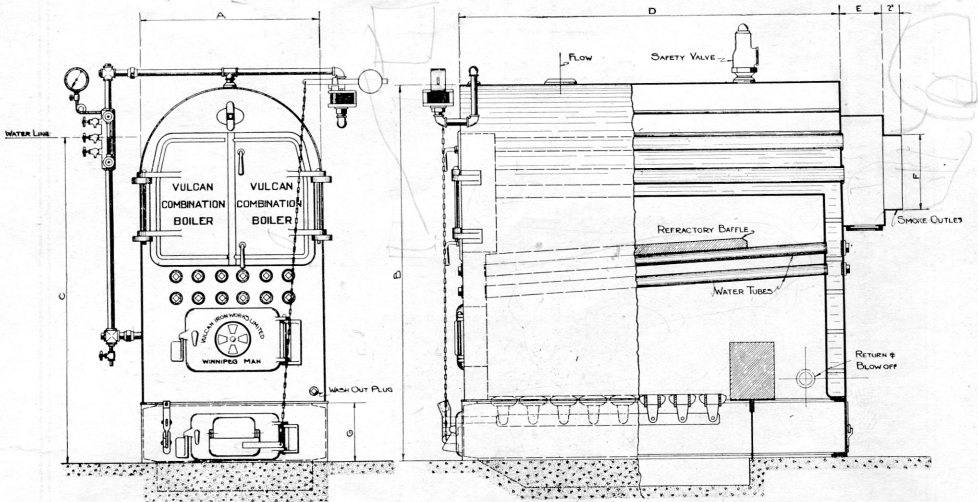
WINNIPEG

MARCH, 1931

CANADA

P-7A

## VULCAN COMBINATION BOILERS



VULCAN COMBINATION BOILERS are, as the name implies, a combination Fire and Water Tube Boiler designed for rapid steaming, efficient and economical operation, all combined in a compact unit taking up the minimum amount of space.

VULCAN COMBINATION BOILERS are guaranteed to be equal in capacity to any Boiler on the market compared on the square feet of Heating Surface basis. But judging from the results of numerous tests, both at our plant and on actual installations, we are convinced that they surpass any boiler on the market at present, as regards both efficiency and capacity.

VULCAN COMBINATION BOILERS are equipped with sufficient Wash Out Plugs, Clean Out Plugs and Handholes to allow for a thorough cleaning and inspection whenever required. They also have sufficient soot doors conveniently placed so that Smoke Boxes and Flues may be cleaned whenever it may be found necessary.

VULCAN COMBINATION BOILERS are manufactured to suit our customers' special requirements as to height of Setting, etc. The heights given in the table of sizes are the minimum recommended for economical combustion of soft coal.

VULCAN COMBINATION BOILERS are built to comply with the Canadian Inter-provincial Regulations, and while Government Registered for 15 lbs. working pressure, are designed for 30 lbs., and tested to 60 lbs. pressure in our shops.

VULCAN COMBINATION BOILERS are constructed of Flange Quality Plate 55,000—65,000 lbs. per square inch tensile strength. All Seams and Stay-bolts Electric Welded. All Castings, including Grates, are of good quality Grey Iron and of rugged construction.

VULCAN COMBINATION BOILERS are furnished with Base, Grates, Safety Valve, Water Column piped to Boiler, Pressure Gauge, Gauge Cocks, Balanced Damper in Ash Pit Door with Automatic Regulator, Firing Tools, Refractory Baffles and Bridge Wall Fire Brick.

No Fittings are supplied with Hot Water Boilers.



VULCAN COMBINATION BOILERS. Table of Sizes

| Size No. | Heating Surface Sq. Ft. | Steam Radiation Square Feet |       | Grate Area Sq. Ft. | Ship'g Weight Lbs. | Dimensions |       |       |       |      |     |      |      |        |              | Area of Covering Sq. Ft. | Heating Surface, per foot of increase in height | Weight in lbs. per ft. of increase in height |
|----------|-------------------------|-----------------------------|-------|--------------------|--------------------|------------|-------|-------|-------|------|-----|------|------|--------|--------------|--------------------------|---|--|
|          |                         | Gross                       | Net   |                    |                    | A          | B     | C     | D     | E    | F   | G    | Flow | Return | Safety Valve |                          |   |  |
| C 1      | 125                     | 1750                        | 1400  | 7.8                | 3900               | 33"        | 6'0"  | 5'3"  | 5'0"  | 8"   | 16" | 12"  | 5"   | 3"     | 2"           | 14                       | 13  | 290  |
| C 2      | 147                     | 2060                        | 1650  | 9.0                | 4400               | 33"        | 6'0"  | 5'3"  | 5'10" | 8"   | 16" | 12"  | 5"   | 3"     | 2½"          | 16                       | 15  | 415  |
| C 3      | 182                     | 2550                        | 2040  | 10                 | 4900               | 36"        | 6'5"  | 5'7"  | 5'6"  | 8"   | 18" | 12"  | 5"   | 3"     | 2½"          | 16.5                     | 14.5  | 415  |
| C 4      | 218                     | 3050                        | 2540  | 11.3               | 5500               | 36"        | 6'5"  | 5'7"  | 6'6"  | 8"   | 18" | 12"  | 5"   | 3"     | 2½"          | 19.5                     | 16.5  | 460  |
| C 5      | 240                     | 3360                        | 2690  | 12                 | 5700               | 42"        | 6'8"  | 5'10" | 5'6"  | 9"   | 20" | 12"  | 6"   | 3"     | 2½"          | 19.5                     | 15.5  | 450  |
| C 6      | 284                     | 3980                        | 3180  | 12                 | 6200               | 42"        | 6'8"  | 5'10" | 6'6"  | 9"   | 20" | 12"  | 6"   | 3"     | 2½"          | 23                       | 17.5  | 490  |
| C 7      | 333                     | 4620                        | 3700  | 14                 | 6700               | 48"        | 7'0"  | 6'2"  | 6'8"  | 9"   | 22" | 12"  | 6"   | 3"     | 3"           | 26.5                     | 19  | 565  |
| C 8      | 386                     | 5400                        | 4320  | 15.8               | 7300               | 48"        | 7'0"  | 6'2"  | 7'8"  | 9"   | 22" | 12"  | 6"   | 4"     | 3"           | 30.5                     | 21  | 620  |
| C 9      | 412                     | 5770                        | 4620  | 16                 | 8900               | 54"        | 7'7"  | 6'6"  | 6'8"  | 10"  | 26" | 12"  | 6"   | 4"     | 3"           | 30                       | 20  | 595  |
| C10      | 478                     | 6700                        | 5350  | 18                 | 9800               | 54"        | 7'7"  | 6'6"  | 7'8"  | 10"  | 26" | 12"  | 6"   | 4"     | 3½"          | 34.5                     | 22  | 650  |
| C11      | 562                     | 7860                        | 6280  | 20.2               | 11500              | 60"        | 8'0"  | 6'11" | 7'8"  | 12"  | 28" | 12"  | 8"   | 4"     | 3½"          | 38.5                     | 23  | 720  |
| C12      | 637                     | 8900                        | 7120  | 20.2               | 12300              | 60"        | 8'0"  | 6'11" | 8'8"  | 12"  | 28" | 12"  | 8"   | 4"     | 3½"          | 43.5                     | 25  | 775  |
| C13      | 731                     | 10290                       | 8160  | 22.5               | 14600              | 66"        | 8'6"  | 7'1"  | 8'8"  | 12"  | 30" | 12"  | 8"   | 4"     | 3½"          | 47.5                     | 26  | 800  |
| C14      | 820                     | 11400                       | 9120  | 25                 | 15800              | 66"        | 8'6"  | 7'1"  | 9'8"  | 12"  | 30" | 12"  | 8"   | 4"     | 4"           | 53                       | 28  | 850  |
| C15      | 871                     | 12200                       | 9760  | 27.5               | 17200              | 72"        | 9'9"  | 8'4"  | 8'11" | 1'2" | 33" | 1'3" | 8"   | 5"     | 4"           | 53.5                     | 27.5  | 830  |
| C16      | 977                     | 13650                       | 10900 | 27.5               | 18700              | 72"        | 9'9"  | 8'4"  | 9'11" | 1'2" | 33" | 1'3" | 8"   | 5"     | 4"           | 59.5                     | 29.5  | 885  |
| C17      | 1123                    | 15700                       | 12550 | 30                 | 21500              | 78"        | 10'5" | 8'11" | 9'2"  | 1'2" | 36" | 1'3" | 10"  | 5"     | 4"           | 59.5                     | 29  | 890  |
| C18      | 1246                    | 17400                       | 13900 | 30                 | 23200              | 78"        | 10'5" | 8'11" | 10'2" | 1'2" | 36" | 1'3" | 10"  | 5"     | 4"           | 66                       | 31  | 950  |
| C19      | 1362                    | 19100                       | 15300 | 33                 | 25000              | 78"        | 10'5" | 8'11" | 11'2" | 1'2" | 36" | 1'3" | 10"  | 5"     | 2 @ 3"       | 72.5                     | 33  | 1010   |
| C20      | 1480                    | 20700                       | 16500 | 33                 | 26500              | 78"        | 10'5" | 8'11" | 12'2" | 1'2" | 36" | 1'3" | 10"  | 5"     | 2 @ 3"       | 79                       | 35  | 1070   |
| C21      | 1591                    | 22300                       | 17800 | 35.8               | 26900              | 84"        | 11'2" | 9'6"  | 11'2" | 1'2" | 42" | 1'3" | 10"  | 6"     | 2 @ 3½"      | 78                       | 34  | 1200   |
| C22      | 1748                    | 24400                       | 19500 | 39                 | 28700              | 84"        | 11'2" | 9'6"  | 12'2" | 1'2" | 42" | 1'3" | 12"  | 6"     | 2 @ 3½"      | 85.5                     | 36  | 1270   |
| C23      | 1903                    | 26600                       | 21300 | 39                 | 30500              | 84"        | 11'2" | 9'6"  | 13'2" | 1'2" | 42" | 1'3" | 12"  | 6"     | 2 @ 3½"      | 92.5                     | 38  | 1340   |
| C24      | 2060                    | 28800                       | 23300 | 42.3               | 32200              | 84"        | 11'2" | 9'6"  | 14'2" | 1'2" | 42" | 1'3" | 12"  | 6"     | 2 @ 3½"      | 99.5                     | 40  | 1410   |

The gross boiler ratings in above table are based on the recognized standard that one square foot of heating surface is equal to 14 square feet of radiation at the steam outlet of the boiler.

The net rating is obtained by deducting 20% from the gross rating to take care of losses due to mains, risers and returns. For Hot Water Heating add 66% to Radiation. For Stoker, Gas or Oil Fired Boilers, add 20% to Radiation. Full ratings can only be developed if Breeching and Chimney is large enough for the Boiler.

# *Estevan Greenhouses, Limited*

A. E. SHANNON  
SECRETARY-MANAGER

CUT FLOWERS AND FLORAL DESIGNS  
POTTED PLANTS AND BEDDING PLANTS

W. FICHTEMANN  
SUPT. OF GREEN HOUSES

ESTEVAN  
SASKATCHEWAN

December 12, 1930.

Vulcan Iron Works, Limited,  
Winnipeg, Manitoba.

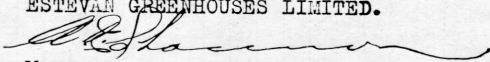
Attention Mr. J. S. Mowat.

Dear Mr. Mowat:

The boiler you sold us has given entire satisfaction. It is economical in the use of even the lowest grade of lignite coal. It is most gratifying to us to note how quickly steam can be produced with your boiler. The boiler is heating a greenhouse containing over 8,000 square feet of floor space, together with a residence, workshop, etc., 26'x65'. In an actual test we were able to generate steam throughout the plant in less than ten minutes, having started this test with very little coal on the grates and the water at a temperature below boiling point.

We consider our heating plant is the finest one of its size in this district and will heartily recommend the Vulcan special lignite burning type of boiler at every opportunity.

Yours very truly,  
ESTEVAN GREENHOUSES LIMITED.

  
Manager.

The Customer, from whom the above letter was received, installed a "C14" Vulcan Combination Boiler and is one of our many satisfied customers.

Such letters as this, indicate that the Vulcan Combination Boiler is most certainly proving its worth as an economical heating boiler for burning our low grade lignite coals, found in Western Canada.

Consult us before deciding on a boiler. Our many years of experience in the boiler designing and manufacturing field will prove profitable to you.